09/807258 Rec'd PCT/PTO 09 APR 2001

SEQUENCE LISTING

<110> E. I. du Pont de Nemours and Company

<120> SCORPION TOXINS

<130> BB1208

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<150> 60/105,404
<151> 1998-10-23

<160> 17

<170> Microsoft Office 97

<210> 1
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<213> Leiurus quinquestriatus

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gtacgggtgg ccattgcgga tttaaacttg gacacggaat tgcctgctgg tgcaatgcct 180
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<211> 75
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<213> Leiurus quinquestriatus

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<222> (1)..(11)

<400> 2
Leu Ala Leu Leu Phe Met Thr Gly Val Glu Ser Val Arg Asp Gly Tyr
1 5 10 15

Ile Ala Gln Pro Glu Asn Cys Val Tyr His Cys Ile Pro Asp Cys Asp
20 25 30

Thr Leu Cys Lys Asp Asn Gly Gly Thr Gly Gly His Cys Gly Phe Lys
35 40 45

Leu Gly His Gly Ile Ala Cys Trp Cys Asn Ala Leu Pro Asp Asn Val
50 55 60

Gly Ile Ile Val Asp Gly Val Lys Cys His Lys
65 70 75

<210> 3
<211> 238
<212> DNA
<213> Leiurus quinquestriatus

<400> 3
tagtttggca cttctcttca tgacaggngt ggagagtgta cgtgacggtt atattgccaa 60
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ggaaaacggt ggtacgggtg gccattgcgg atttaaagtt ggacatggaa ctgcctgctg 180
gtgcaatgcc ttgcccgata aagtagggat tatagtagat ggagtaaaat gccatcgc 238

<210> 4
<211> 79
<212> PRT
<213> Leiurus quinquestriatus

<220>
<221> SIGNAL
<222> (1)..(12)

<400> 4

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Ser Leu Ala Leu Leu Phe Met Thr Gly Val Glu Ser Val Arg Asp Gly
  1               5                  10                  15

Tyr Ile Ala Lys Pro Glu Asn Cys Ala His His Cys Phe Pro Gly Ser
            20                  25                  30

Ser Gly Cys Asp Thr Leu Cys Lys Glu Asn Gly Gly Thr Gly Gly His
        35                  40                  45

Cys Gly Phe Lys Val Gly His Gly Thr Ala Cys Trp Cys Asn Ala Leu
    50                  55                  60

Pro Asp Lys Val Gly Ile Ile Val Asp Gly Val Lys Cys His Arg
65                  70                  75
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<210> 5
<211> 258
<212> DNA
<213> Leiurus quinquestriatus

<400> 5

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cccggttgcg acacattatg taaagagaac ggtgcttcga gtggccattg cggatttaaa 180
gaaggacacg gacttgcctg ctggtgcaat gatctgcccg ataaagtagg gataatagta 240
gaaggagaaa aatgccat                                               258
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<210> 6
<211> 87
<212> PRT
<213> Leiurus quinquestriatus

<220>
<221> SIGNAL
<222> (1)..(19)

<400> 6

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Met Asn His Leu Val Met Ile Ser Leu Ala Leu Leu Phe Met Thr Gly
  1               5                  10                  15

Val Glu Ser Gly Val Arg Asp Gly Tyr Ile Ala Gln Pro Glu Asn Cys
            20                  25                  30

Val Tyr His Cys Phe Pro Gly Ser Pro Gly Cys Asp Thr Leu Cys Lys
        35                  40                  45

Glu Asn Gly Ala Ser Ser Gly His Cys Gly Phe Lys Glu Gly His Gly
    50                  55                  60

Leu Ala Cys Trp Cys Asn Asp Leu Pro Asp Lys Val Gly Ile Ile Val
65                  70                  75                  80

Glu Gly Glu Lys Cys His Lys
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<210> 7
<211> 85
<212> PRT
<213> Buthus occitanus

<400> 7
Met Ser Ser Leu Met Ile Ser Thr Ala Met Lys Gly Lys Ala Pro Tyr
1 5 10 15

Arg Gln Val Arg Asp Gly Tyr Ile Ala Gln Pro His Asn Cys Ala Tyr
20 25 30

His Cys Leu Lys Ile Ser Ser Gly Cys Asp Thr Leu Cys Lys Glu Asn
35 40 45

Gly Ala Thr Ser Gly His Cys Gly His Lys Ser Gly His Gly Ser Ala
50 55 60

Cys Trp Cys Lys Asp Leu Pro Asp Lys Val Gly Ile Ile Val His Gly
65 70 75 80

Glu Lys Cys His Arg
85

<210> 8
<211> 252
<212> DNA
<213> Leiurus quinquestriatus

<400> 8
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cgtgatgctt atattgccca gaactataac tgtgtatatc attgtgcttt aaatccatat 120
tgcaacgatt tatgtaccaa gaacggtgct aagagtggct attgccaatg gttcggttca 180
agtggaaacg cctgctggtg catagatttg cccgataacg taccgattaa agtaccagga 240
aaatgccatc gc 252

<210> 9
<211> 84
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<213> Leiurus quinquestriatus

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<222> (1)..(19)

<400> 9
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1 5 10 15

Val Glu Ser Gly Arg Asp Ala Tyr Ile Ala Gln Asn Tyr Asn Cys Val
20 25 30

Tyr His Cys Ala Leu Asn Pro Tyr Cys Asn Asp Leu Cys Thr Lys Asn
35 40 45

Gly Ala Lys Ser Gly Tyr Cys Gln Trp Phe Gly Ser Ser Gly Asn Ala
50 55 60

Cys Trp Cys Ile Asp Leu Pro Asp Asn Val Pro Ile Lys Val Pro Gly
65 70 75 80

Lys Cys His Arg

<210> 10
<211> 65

<212> PRT
<213> Buthus occitanus tunetanus

<400> 10
Gly Arg Asp Ala Tyr Ile Ala Gln Pro Glu Asn Cys Val Tyr Glu Cys
1 5 10 15

Ala Gln Asn Ser Tyr Cys Asn Asp Leu Cys Thr Lys Asn Gly Ala Thr
20 25 30

Ser Gly Tyr Cys Gln Trp Leu Gly Lys Tyr Gly Asn Ala Cys Trp Cys
35 40 45

Lys Asp Leu Pro Asp Asn Val Pro Ile Arg Ile Pro Gly Lys Cys His
50 55 60

Phe
65

<210> 11
<211> 256
<212> DNA
<213> Leiurus quinquestriatus

<400> 11
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gctgacggat atataagaag aaaagacgga tgcaaggttg catgcctgtt cggaaatgac 120
ggctgcaata aagaatgcaa agcttatggt gcctattatg gatattgttg gacctgggga 180
cttgcctgct ggtgcgaagg tcttccggat gacaagacat ggaagagtga aacaaacaca 240
tgcggtggca aaaagt 256

<210> 12
<211> 85
<212> PRT
<213> Leiurus quinquestriatus

<220>
<221> SIGNAL
<222> (1)..(21)

<400> 12
Met Lys Ile Ile Ile Phe Leu Ile Val Ser Ser Leu Met Leu Ile Gly
1 5 10 15

Val Lys Thr Asp Asn Gly Tyr Leu Leu Asn Lys Ala Thr Gly Cys Lys
20 25 30

Val Trp Cys Val Ile Asn Asn Ala Ser Cys Asn Ser Glu Cys Lys Leu
35 40 45

Arg Arg Gly Asn Tyr Gly Tyr Cys Tyr Phe Trp Lys Leu Ala Cys Tyr
50 55 60

Cys Glu Gly Ala Pro Lys Ser Glu Leu Trp Ala Tyr Ala Thr Asn Lys
65 70 75 80

Cys Asn Gly Lys Leu
85

<210> 13
<211> 255
<212> DNA
<213> Leiurus quinquestriatus

<400> 13
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ttttgtgata atgaatgcaa agctgctggt ggctcttatg gatattgttg ggcctgggga 180
cttgcctgct ggtgcgaagg tcttccagct gacagggaat ggaagtatga aaccaataca 240
tgcggtggca aaaag 255

<210> 14
<211> 85
<212> PRT
<213> Leiurus quinquestriatus

<220>
<221> SIGNAL
<222> (1)..(21)

<400> 14
Met Lys Leu Leu Leu Leu Leu Thr Ile Ser Ala Ser Met Leu Ile Glu
1 5 10 15

Gly Leu Val Asn Ala Asp Gly Tyr Ile Arg Gly Gly Asp Gly Cys Lys
20 25 30

Val Ser Cys Val Ile Asn His Val Phe Cys Asp Asn Glu Cys Lys Ala
35 40 45

Ala Gly Gly Ser Tyr Gly Tyr Cys Trp Ala Trp Gly Leu Ala Cys Trp
50 55 60

Cys Glu Gly Leu Pro Ala Asp Arg Glu Trp Lys Tyr Glu Thr Asn Thr
65 70 75 80

Cys Gly Gly Lys Lys
85

<210> 15
<211> 255
<212> DNA
<213> Leiurus quinquestriatus

<400> 15
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tcttgtaata gtgagtgtaa actaagacgt ggaaattatg gctactgcta tttctggaaa 180
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tgcaatggga aatta 255

<210> 16
<211> 85
<212> PRT
<213> Leiurus quinquestriatus

<220>
<221> SIGNAL
<222> (1)..(19)

<400> 16
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Ser Leu Val Asn Ala Asp Gly Tyr Ile Arg Arg Lys Asp Gly Cys Lys
20 25 30

Val Ala Cys Leu Phe Gly Asn Asp Gly Cys Asn Lys Glu Cys Lys Ala
35 40 45

Tyr Gly Ala Tyr Tyr Gly Tyr Cys Trp Thr Trp Gly Leu Ala Cys Trp
50 55 60

Cys Glu Gly Leu Pro Asp Asp Lys Thr Trp Lys Ser Glu Thr Asn Thr
65 70 75 80

Cys Gly Gly Lys Lys
85

<210> 17
<211> 61
<212> PRT
<213> Leiurus quinquestriatus

<400> 17
Asp Gly Tyr Ile Lys Arg Arg Asp Gly Cys Lys Val Ala Cys Leu Ile
1 5 10 15

Gly Asn Glu Gly Cys Asp Lys Glu Cys Lys Ala Tyr Gly Gly Ser Tyr
20 25 30

Gly Tyr Cys Trp Thr Trp Gly Leu Ala Cys Trp Cys Glu Gly Leu Pro
35 40 45

Asp Asp Lys Thr Trp Lys Ser Glu Thr Asn Thr Cys Glu
50 55 60